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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/518,505

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Sami Poykko

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EXAMINER

AMINZAY, SHAIMA Q

ART UNIT

PAPER NUMBER

2618

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------|--------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/518,505 | POYKKO, SAMI | |
| | Examiner | Art Unit | |
| | Shaima Q. Aminzay | 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification Objection

1. In the specification page 8, lines 28-30 the phrase “BSTS1 10”, “BSTS2 12”, and “BSTS3 14” for clarification need to be changed to “BSTS1 (10)”, “BSTS2 (12)”, “BSTS3 (14)”. Applicant’s correction is required.

Claim Objections

2. Claims 35-68 are objected under 37 CFR 1.75(c) as being improper, the phrase “element/repeater” in claims 35, 37, 38, 52, 55, and 56 needs to be clarified. Applicant’s correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 35-68 are rejected under 35 U.S.C. 102(e) as being anticipated by Amerga (Amerga et al., US Patent No. 7,039,418).

Regarding claim 35, Amerga discloses a method of determining the path of a signal between a donor network element and a remote station (*Figures 1-17, column 1, lines 14-52, column 2, lines 11-17, column 3, lines 50-67, column 12, line 7-11, the link (path signal) between the remote terminal and the donor network (serving base station) is being determined*), the donor network element being associated with at least one repeater (*for example, Figure 6B, column 1, lines 14-52, column 10, lines 33-49, the base station 104 (donor network element) is being associated with the repeater 114*), comprising the steps of: receiving at the remote station a plurality of signals associated with a plurality of network elements (*Figures 1-17, column 1, lines 14-52, column 3, lines 50-67, column 12, lines 7-*

11, column 15, line 65-67, column 16, lines 1-3, the remote terminal (106) receiving multiple signal associated with multiple stations (repeater and/or base station));

calculating an estimate of the distance between the remote station and each network element (column 1, lines 14-52, column 3, lines 14-17, lines 30-45, lines 50-67, column 5, lines 62-67, column 9, lines 23-30, column 10, lines 33-49, column 12, lines 7-11, column 13, line 43-53, lines 63-67, column 14, lines 1-3, column 15, line 65-67, column 16, lines 1-3, the distance between the remote terminal and other network devices (network elements, base stations and/or repeaters) is being computed),

including an estimate of the distance between the remote station and each repeater associated with the donor network element (Figures 1-14, column 1, lines 14-52, column 3, lines 14-17, lines 30-45, lines 50-67, column 5, lines 62-67, column 9, lines 23-30, column 10, lines 33-49, column 12, lines 7-11, column 13, line 43-53, lines 63-67, column 14, lines 1-3, column 15, line 65-67, column 16, lines 1-3, the distance between the remote terminal (106) and the repeaters such as repeater 114 associated with the donor network (104) is being estimated);

determining the one of said estimates of the distance between the donor network element and at least one associated repeater and remote station which most closely approximates to the distance between the other network elements and the remote station (Figures 1-14, column 1, lines 39-52, column 3, lines 14-17, lines 30-45, lines 50-67, column 5, lines 62-67, column 9, lines 23-30, column 10, lines 33-49, column 12, lines 7-11, column 13, lines 63-67, column 14, lines 1-3, column 15, line 65-67, column 16, lines 1-42, the position (distance) of donor network (104) associated with repeater (114) is being

estimated and the remote terminal (106) is in close approximate distance with respect to other network repeaters and/or base stations); and selecting that donor network element/repeater to be the source of the signal (for example, Figure 6, column 1, lines 14-52, column 10, lines 33-49, the donor network (104) is being selected to be the source of communication link (signal)).

Regarding claim 52, Amerga discloses a network device adapted to determine the path of a signal between a donor network element and a remote station (*Figures 1-17, column 1, lines 14-52, column 2, lines 11-17, column 3, lines 14-67, column 12, line 7-11, the link (path signal) between the remote terminal and the donor network (serving base station) is being determined*),

the donor network element being associated with at least one repeater (*Figures 1-17, repeater 114*), comprising means for calculating an estimate of the distance between the remote station and each network element (*column 1, lines 14-52, column 3, lines 14-17, lines 30-45, lines 50-67, column 5, lines 62-67, column 9, lines 23-30, column 10, lines 33-49, column 12, lines 7-11, column 13, line 43-53, lines 63-67, column 14, lines 1-3, column 15, line 65-67, column 16, lines 1-3, the distance between the remote terminal and other network devices (network elements, base stations and/or repeaters) is being computed*),

including an estimate of the distance between the remote station and each repeater associated with the donor network element (*Figures 1-14, column 1, lines 14-52, column 3, lines 14-17, lines 30-45, lines 50-67, column 5, lines 62-67, column 9, lines 23-30,*

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column 10, lines 33-49, column 12, lines 7-11, column 13, line 43-53, lines 63-67, column 14, lines 1-3, column 15, line 65-67, column 16, lines 1-3, the distance between the remote terminal (106) and the repeaters such as repeater 114 associated with the donor network (104) is being estimated), based on a plurality of signals received at a mobile station (Figures 1-17, column 1, lines 14-52, column 3, lines 50-67, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-3, the remote terminal (106) receiving multiple signal associated with multiple stations (repeater and/or base station));

means for determining the one of said estimates of the distance between the donor network element and at least one associated repeater and remote station which most closely approximates to the distance between the other network elements and the remote station (*Figures 1-14, column 1, lines 39-52, column 3, lines 14-17, lines 30-45, lines 50-67, column 5, lines 62-67, column 9, lines 23-30, column 10, lines 33-49, column 12, lines 7-11, column 13, lines 63-67, column 14, lines 1-3, column 15, line 65-67, column 16, lines 1-42, the position (distance) of donor network (104) associated with repeater (114) is being estimated and the remote terminal (106) is in close approximate distance with respect to other network repeaters and/or base stations*); and means for selecting that donor network element/repeater to be the source of the signal (*for example, Figure 6, column 1, lines 14-52, column 10, lines 33-49, the donor network (104) is being selected to be the source of communication link (signal)*).

Regarding claims 36 and 54, Amerga teach all the limitations of claims 35, 52, and

further, Amerga teaches wherein the step of calculating an estimate of the distance between the remote station and each network element (*Figures 1-17, column 1, lines 14-52, column 3, lines 50-67, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-3, the remote terminal (106) receiving multiple signal associated with multiple stations (repeater and/or base station)*) comprises: selecting each one of the donor network elements and at least one repeater in turn as the source of the signal; and performing said calculating step for only the selected one of the donor network element and at least one repeater (*for example, Figure 6, column 1, lines 14-52, column 10, lines 33-49, the donor network (104) is being selected to be the source of communication link (signal) and the repeater 114*).

Regarding claims 37 and 55, Amerga teach all the limitations of claims 35, 52, and further, Amerga teaches wherein the step of calculating the estimate of the distance includes estimating the location of the remote station (*Figures 1-17, column 1, lines 14-52, column 3, lines 50-67, column 10, lines 33-49, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-3*) and thereby estimating an actual distance between each donor network element/repeater and the remote station (*Figures 1-17, column 1, lines 14-52, column 3, lines 50-67, column 10, lines 33-49, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-3*) .

Regarding claims 38 and 56, Amerga teach all the limitations of claims 37, 55, and further, Amerga teaches wherein the step of calculating the estimate of the distance

includes measuring physical quantities at the remote station (*Figures 1-17, column 1, lines 14-52, column 3, lines 50-67, column 10, lines 33-49, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-3*), and thereby estimating a model distance between each network element/repeater and the remote station (*Figures 1-17, column 1, lines 14-52, column 3, lines 50-67, column 10, lines 33-49, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-32*).

Regarding claims 39 and 57, Amerga teach all the limitations of claims 38, 56, and further, Amerga teaches wherein the measured physical quantity includes the measurement, at the remote station, of one or all of: a time delay in a received signal; attenuation in a received signal or received signal strength (*Figures 1-17, column 1, lines 14-52, column 3, lines 50-67, column 10, lines 33-49, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-32*).

Regarding claims 40 and 58, Amerga teach all the limitations of claims 39, 57, and further, Amerga teaches wherein the step of estimating the actual distances further comprises summing the estimated actual distances (*Figures 1-17, column 1, lines 14-52, column 3, lines 50-67, column 10, lines 33-49, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-32*).

Regarding claims 41 and 59, Amerga teach all the limitations of claims 40, 58, and further, Amerga teaches wherein the step of estimating the model distances further

comprises summing the model distances

Regarding claims 42 and 60, Amerga teach all the limitations of claims 41, 59, and further, Amerga teaches calculating a scale factor in dependence on the summed actual and model distances (*column 9, lines 23-67, column 10, lines 33-67, column 11, lines 1-26*).

Regarding claims 43 and 61, Amerga teach all the limitations of claims 42, 60, and further, Amerga teaches wherein the scale factor is determined to adapt the scaled sums to be equal (*column 9, lines 23-67, column 10, lines 33-67, column 11, lines 1-26, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-32*).

Regarding claims 44 and 62, Amerga teach all the limitations of claims 43, 61, and further, Amerga teaches wherein the scale factor is determined by dividing the summed actual estimates by the summed model estimates (*column 9, lines 23-67, column 10, lines 33-67, column 11, lines 1-26, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-32*).

Regarding claims 45 and 63, Amerga teach all the limitations of claims 43, 61, and further, Amerga teaches wherein the model distances estimates are modified in dependence on said scale factor to produce a set of modified model distances (*column 9, lines 23-67, column 10, lines 33-67, column 11, lines 1-26, column 12, lines 7-11, column*

15, line 65-67, column 16, lines 1-32).

Regarding claims 46 and 64, Amerga teach all the limitations of claims 45, 63, and further, Amerga teaches wherein the model distances are scaled by the scaling factor to produce the modified model distances (*column 9, lines 23-67, column 10, lines 33-67, column 11, lines 1-26, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-32).*

Regarding claims 47 and 65, Amerga teach all the limitations of claims 46, 64, and further, Amerga teaches calculating a difference value for each donor network element and at least one repeater by summing the difference between each estimate and each modified model estimate obtained for each respective donor network element and at least one repeater (*column 9, lines 23-67, column 10, lines 33-67, column 11, lines 1-26, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-32).*

Regarding claims 48 and 66, Amerga teach all the limitations of claims 47, 65, and further, Amerga teaches wherein, the signal is determined to be transmitted from the donor network element or at least one repeater having the lowest difference value (*column 9, lines 23-67, column 10, lines 33-67, column 11, lines 1-26, column 12, lines 7-11, column 15, line 65-67, column 16, lines 1-32).*

Regarding claims 49 and 67, Amerga teach all the limitations of claims 35, 52, and

further, Amerga teaches wherein a plurality of signals are from a donor network element, wherein all steps are repeated for each such signal to determine a source of each signal (*Figures 1-14, column 1, lines 39-52, column 3, lines 14-17, lines 30-45, lines 50-67, column 5, lines 62-67, column 9, lines 23-30, column 10, lines 33-49, column 12, lines 7-11, column 13, lines 63-67, column 14, lines 1-3, column 15, line 65-67, column 16, lines 1-42*).

Regarding claims 50 and 68, Amerga teach all the limitations of claims 35, 52, and further, Amerga teaches calculating the location of the remote station in dependence on the determined source of the signal (*for example, Figure 6, column 1, lines 14-52, column 10, lines 33-49, the donor network (104) is being selected to be the source of communication link (signal)*).

Regarding claims 51 and 53, Amerga teach all the limitations of claims 35, 52, and further, Amerga teaches wherein the remote station is a mobile station and the donor network element is a donor base station (*for example, Figure 6, column 1, lines 14-52, column 10, lines 33-49, the donor network (104) is a base station and the remote terminal (106) is a mobile station*).

Conclusion

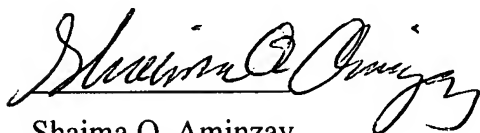
The prior art made of record considered pertinent to applicant's disclosure, see PTO-892 form.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 571-272-7874. The examiner can normally be reached on 7:00 AM -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew D. Anderson can be reached on 571-272-4177. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shaima Q. Aminzay
(Examiner)

May 17, 2007



Matthew D. Anderson
Supervisory Patent Examiner